(19) World Intellectual Property **Organization**

International Bureau





(43) International Publication Date 1 September 2005 (01.09.2005)

PCT

(10) International Publication Number WO 2005/079335 A3

A61F 2/06 (51) International Patent Classification⁷:

(21) International Application Number:

PCT/US2005/004522

(22) International Filing Date: 14 February 2005 (14.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 60/544,010

12 February 2004 (12.02.2004)

(71) Applicant (for all designated States except US): THE UNIVERSITY OF AKRON [US/US]; 302 E. Buchtel Common, Akron, OH 44325 (US).

- (72) Inventors; and
- (75) Inventors/Applicants (for US only): RENEKER, Darrell, H. [US/US]; 300 Hampshire Road, Akron, OH 44313 (US). SMITH, Daniel, J. [US/US]; 2988 Ridgeline Trail, Stow, OH 44224 (US). KATAPHINAN, Woraphon [TH/US]; 805 Yale Street #B, Akron, OH 44311 (US).
- (74) Agent: MOXON, George, W., II; Roetzel & Andress, 222 South Main Street, Akron, OH 44308 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 15 December 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



(54) Title: MECHANICALLY ATTACHED MEDICAL DEVICE COATINGS

(57) Abstract: The present invention relates to nanofibrous coatings on medical devices such a surgical mesh or stent, wherein the coating is mechanically attached to the device. The principal mechanism for attaching the coating is through causing the fibers to permeate and entangle with the substrate.